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Subject perchlorate information sheet

Fax to:

Dear Stakeholder:

As you probably know by now, the ADHS has been working on a study that examines newborn thyroid stimulating hormone (TSH) levels in Yuma and Flagstaff.

Yuma and Flagstaff were chosen because 100% of the water treated and delivered in Yuma is from the Colorado River, which contains between 4 and 9 ppb of perchlorate. Flagstaff has no detectable perchlorate in its water supply. TSH was examined because the thyroid is the main target organ of perchlorate, and because TSH data are available in our newborn screening database.

The study found that TSH levels were slightly higher in Yuma than in Flagstaff, suggesting an association between drinking water containing perchlorate and changes in newborn thyroid function. Please note that an association does not mean that the study establishes cause and effect. While the study found a difference in laboratory values, we did not find any association between higher TSH values in Yuma and thyroid disease.

Ross J. Brechner M.D., M.P.H., the primary author of the study, has accepted an invitation by the American Water Works

Association (AWWA) to present the paper at their annual meeting in Denver next week. Dr. Brechner will be presenting the paper on Thursday, June 15 at 8:00 a.m. The study will be published in the Journal of Occupational and Environmental Medicine later this summer.

The ADHS has prepared the attached information sheet in an effort to better prepare and inform those organizations that have an interest in this issue. The attached information sheets are in both WordPerfect and Word format. You will find that the WordPerfect version is more pleasing to the eye, but both have the same information.

There may also be some media coverage of the study results prior to the AWWA conference. The ADHS will respond to any media question and questions from the public regarding the study results. Dr. Brechner can accept calls at 602.542.1216. Will Humble can be reached at 602.230.5948.

The study does not suggest that drinking treated water from the Colorado River or CAP presents a health risk. The levels of perchlorate in the river and the CAP are less than our Health Based Guidance Level of 14 ug/L. Rather, the study suggests that additional studies should be considered to further investigate the results.

We hope you find the attached information helpful. Also, feel free to refer any calls that you feel uncomfortable answering to us at the numbers above

Sincerely,

Will Humble
Ross Brechner, M.D., M.S., M.P.H.



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Information Sheet:

Perchlorate in Drinking Water



June 8, 2000

What is Perchlorate?

Ammonium perchlorate is a man-made inorganic salt. It is most often used as a component in solid rocket fuel and in fireworks. As with any salt, it is very soluble in water and degrades very slowly once it gets into water. Perchlorate (ClO_4^-) is the part of the salt being investigated.

What is the Concern?

Perchlorate is coming from soil and water contamination in the Las Vegas Wash, near Henderson, Nevada, and entering the Colorado River at Lake Mead. Low levels of perchlorate are present in Colorado River water from Lake Mead to the US border with Mexico. Perchlorate is also present in Central Arizona Project (CAP) water and in the aqueduct that supplies water to southern California.

Is it Safe to Drink Treated Tap Water that Comes from the Colorado River?

Yes. The level of perchlorate in Colorado River water is below levels that are thought to cause health problems. The ADHS Health-based Guidance Level (HBGL) for maximum levels of perchlorate in water is 14 parts per billion (ppb). Perchlorate levels in Colorado River water below Lake Mead, including CAP water, range from not-detected to 9 ppb.

Who is Researching Perchlorate?

The Interagency Perchlorate Steering Committee (IPSC), made up of several federal, state, and local agencies, has been developing scientific information on the extent and importance of perchlorate in drinking water. The United States Environmental Protection Agency (USEPA), US Department of Defense (DOD) and several others in the IPSC are conducting several new toxicology studies to better understand the health effects from perchlorate in water.

The ADHS has recently completed, and will soon publish, a study that compares thyroid stimulating hormone (TSH) levels in newborns in Yuma and Flagstaff. Yuma gets all of its tap water from the Colorado River, while Flagstaff has no detectable perchlorate in its tap water. TSH levels were studied since perchlorate primarily affects the thyroid. The study found a small difference in TSH levels between the 2 cities, but no health problems were found. Even so, the USEPA and IPSC members will be examining the ADHS study and the other toxicology studies to determine if additional studies need to be done.

Is Somebody Going to Clean it Up?

The USEPA, the State of Nevada, the Kerr-McGee Corp. and the US Department of Defense are developing ways to prevent more perchlorate from getting into the Colorado River. An engineering project has been installed that reduces the amount of perchlorate getting into the water, but more work still needs to be done.

For more information, call the ADHS Office of Environmental Health at 602.230.5948

